

Application No. 10/015,677

REMARKS

The Office Action of December 13, 2004 has been carefully considered. Reconsideration of this application, as amended, is respectfully requested. Claims 1-8 are pending in this application. Of these, claims 1, 4, 7, and 8 are independent. In this Amendment, claims 1, 4, 7, and 8 have been amended and no claims have been cancelled.

35 USC § 103

Claims 1-8 have been rejected under 35 USC § 103(a) as being unpatentable over Hogle IV (5,923,307) in view of Ludtke et.al. (6,501,441).

The disclosures of the cited art and the distinctions between them and applicant's claimed may be briefly summarized as follows:

Hogle IV teaches how to arrange multiple monitors in a logical space to form a contiguous, non-overlapping region.

Ludtke et al. teaches how to form a magnified image across a multiple display configuration wherein the displays are arranged in a grid and share the same characteristics.

Applicant's claimed invention (independent amended Claims 1, 4, and 8) is a method for displaying a perceived continuous image across two or more display areas, where each display area has a given resolution and the resolution of at least one display area is different than the resolution of the other display areas. Image portions of a source image are provided to each display area and are scaled such that when the image portions are displayed on the two or more display areas the resulting displayed image appears substantially continuous to a viewer situated to view the image and the displayed resolution of at least one portion of the source image is different from the displayed resolution of at least one other portion of the source image.

Amendment

Application No. 10/015,677

Applicant's claimed invention (independent Claim 7) is a method for displaying a perceived continuous video image across first and second display areas where each display area has a given resolution and the resolution of one display area is different than the resolution of the other display area. The images provided to each display area are scaled such that when the images are displayed the resulting displayed image appears substantially continuous to a viewer situated to view the image and the displayed resolution of the first video image on the first display is different from the displayed resolution of the second video image on the second display.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

It is well settled that the prior art must enable one skilled in the art to make and use the apparatus or method and that obviousness also requires evidence that the prior art as a whole would have enabled someone of ordinary skill to practice the claimed invention.

Hogle IV does not teach or suggest scaling an image to provide a continuous display with portions displayed in different resolutions. In Hogle IV, the total displayable screen area or virtual screen area is determined as an

Amendment

Application No. 10/015,677

aggregate of the number of pixels contained in each of the screen areas. Hence when a screen area changes its resolution (for instance becoming larger by going to a size with more pixels such as 1024x768, or smaller by going to a size with fewer pixels such as 800x600) then the total displayable portion must be recalculated to either remove the overlap in the logical space caused by the larger screen size or to remove gaps in the logical space caused by the smaller screen size (please see column 11, lines 48-59). The effect of this is that if screens of differing pixel sizes are placed next to each other in logical space while an image overlapping the two screens will be displayed across the two screens and the image portions will be adjacent to each other, then the entire image will not appear to be continuous as the portion of the image on the screen with the larger pixels will appear to be larger and the portion of the image on the screen with the smaller pixels will be smaller. The only way to insure a continuous image is to only use screens having the same pixel size. However, when this is done all images are displayed at the same resolution. Therefore, with Hogle IV your choice is to have either a perceived continuous image with one resolution of display or a discontinuous image using different resolutions.

Note that while Hogle IV states in column 2 lines 1-8 that "In one aspect of the invention, a computer system arranges multiple monitors in logical space to form a contiguous and non-overlapping region" that this is referring to the formation of a contiguous display space NOT to the formation of a continuous image displayed across multiple display areas wherein the resolution of the displayed image on one display area is different from the resolution of the displayed image on at least one other of the displayed areas as claimed by Applicant. This difference is easily illustrated by comparing Figures 9(a) and 9(b) from Hogle IV with Figure 2 and the description thereof on pages 12 and 13 of applicant's specification.

Amendment

Application No. 10/015,677

In Figures 9(a) and 9(b) of Hogle IV, when the resolution of a display is changed the *displayed* image size changes. The resolution in Figure 9(a) of 1024x768 has a smaller pixel size than the resolution in Figure 9(b) of 800x600. As the exact same pixels are being displayed in both cases, the image appears larger in Figure 9(b) because the pixels are physically larger. The result in Hogle IV then is that if screens of differing pixel sizes are placed next to each other in logical space while an image overlapping the two screens is displayed across the two screens with the image portions adjacent to each other, the entire image will not appear to be continuous as the portion of the image on the screen with the larger pixels will appear to be larger and the portion of the image on the screen with the smaller pixels will be smaller. The only way to insure a continuous image is to only use screens having the same pixel size. However, when this is done all images are displayed at the same resolution. Therefore, with Hogle IV your choice is to have either a perceived continuous image with one resolution of display or a discontinuous image using different resolutions.

However, in Figure 2 of applicant's disclosure along with the description contained on pages 12 and 13 of applicant's specification there is clearly shown an image of the letter "k" across two areas having different resolutions and pixel sizes. The portion of the image displayed in the area having the larger pixel size is referred to as the context area, while the portion of the image displayed in the area having the smaller pixel size is referred to as the focus area. The specification clearly points out that "if the image in the focus area were either enlarged or reduced relative to the image displayed in the context area this would ... introduce discontinuities in the [displayed] image." Figure 2, is the illustration of Applicant's claimed Invention wherein image portions of a source image are provided to two or more display areas and are

Amendment

Application No. 10/016,677

scaled such that when the image portions are displayed on the two or more display areas the resulting displayed image appears substantially continuous to a viewer situated to view the image and the displayed resolution of at least one portion of the source image is different from the displayed resolution of at least one other portion of the source image.

Although the Office Action states that Hogle IV intended to solve the problem of multiple displays having different resolutions and maintaining a contiguous image over the multiple displays, this is not what Hogle IV teaches. Hogle IV does not teach maintaining a continuous image as claimed by Applicant but rather allows discontinuities of image introduced by varying pixels sizes and instead performs the much simpler adjustment of locating the displays in logical space to form a contiguous and non-overlapping region of display space. The only way to insure a continuous image is to only use screens having the same pixel size. However, when this is done all images are displayed at the same resolution. Therefore, with Hogle IV your choice is to have either a perceived continuous image with one resolution of display or a discontinuous image using different resolutions.

The Office Action admits that "Hogle IV does not directly illustrate the claim limitations of 'and the display resolution of one display is different than the display resolution of the other display area....and the displayed resolution of the first portion of the source image is different from the displayed resolution of the second portion of the source image'." but suggests that this feature is found in Ludtke et al. which teaches a method and apparatus of partitioning, scaling and displaying video across several display devices.

However, while Ludtke et al. does provide a scaled image across several display devices, it only provides a "final magnified image" across

Amendment

Application No. 10/015,677

display devices having "the same characteristics and capabilities" wherein "the multiple display configuration is square, having the same number of display devices in a row as in a column" (please see column 9, lines 62-67). The method of partitioning the video stream, as is shown in Figure 6, is to simply partition the video stream into sections as determined by the number of devices used in each of the horizontal and vertical planes (please see column 20 lines 10- 30) This method can only work, and indeed this is all that is taught, if the resolution of all the devices is the same. Hence the need, when configuring a system, for each display device to be first set to the appropriate resolution using the "preferred_resolution" parameter (please see column 20 lines 18-20 and 26-30). Therefore, neither does Ludtke et al., Hogle IV, or the combination thereof teach or suggest image portions of a source image which are provided to two or more display areas and are scaled such that when the image portions are displayed on the two or more display areas the resulting displayed image appears substantially continuous to a viewer situated to view the image and the displayed resolution of at least one portion of the source image is different from the displayed resolution of at least one other portion of the source image.

This is quite different from Applicant's claimed invention which seeks to make use of screens with varying resolutions and preserve a continuous image with at least one portion displayed at a different resolution, regardless of the resolution of any individual screen by appropriately scaling the images for each of the screens. Neither Hogle IV, nor Ludtke et al, nor the combination teach or suggest all of the claim limitations. Furthermore, there is no suggestion to modify either Hogle IV or Ludtke et al. to provide the missing claim limitation. Ludtke et al. relies on displays with the same "characteristics" which are arranged in a simple grid to provide the partitioning and scaling parameters while Hogle IV relies on positioning in logical space to avoid

Amendment

-10-

Application No. 10/015,677

scaling altogether. Without more there can not be fairly said to be a reasonable expectation of success. Applicants therefore believe the rejection is improper and that claims 1, 4, 7, and 8 are in a condition for allowance. Applicants respectfully request that the rejection be withdrawn and Claims 1, 4, 7, and 8 be allowed to issue.

Insofar as claims 2, 3, 5, and 6 are concerned, these claims all include the limitations of and depend from now presumably allowable claims 1 or 4 and are also believed to be in allowable condition for the reasons hereinbefore discussed with regard to claims 1 and 4 above. Applicant respectfully request that the rejection be withdrawn and Claims 2, 3, 5, and 6 be allowed to issue.

Reconsideration/Admittance Requested

In view of the foregoing remarks and amendments, reconsideration of this application and allowance thereof are earnestly solicited.

Fee Authorization And Extension Of Time Statement

An additional fee due to a three month Extension of Time is believed to be required for this amendment. The undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to

Amendment

Application No. 10/015,677

call Nola Mae McBain, at Telephone Number 650-812-4264, Palo Alto, California.

Respectfully submitted,



Nola Mae McBain
Attorney for Applicant(s)
Registration No. 35,782
(650) 812-4264

Palo Alto, California
Date: June 13, 2005

Amendment

-12-